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WALTER DAVID HUNTER

The bare announcement of Doctor Hunter's death appeared in the News Letter for September, the information having been received just as that issue was going to press. An account of his life and connection with the Department of Agriculture appears in the Official Record of October 28, 1925.

Since 1905 Doctor Hunter has been in charge of Southern Field Crop Insect Investigations, and had an intimate part in building up the Bureau of Entomology to its present status. For the six or seven years preceding his death he made his headquarters in Houston, Tex., and from this place he directed the field operations of his branch. He was in personal charge of the work of eradicating the pink bollworm from Louisiana and the interior parts of Texas. His success in this field is now a matter of history and marks perhaps the greatest single achievement in applied entomology up to the present time. Requiring as it did sound entomological training and judgment, infinite patience, a personality which inspired confidence and respect, and tact in influencing public opinion and meeting difficult situations, it shows Doctor Hunter as the broadly rounded man he was.

In private life he was a most lovable friend and companion. One of his chief characteristics was his unfailing good humor and keen wit. He once remarked to the writer that he didn't mind sitting down to talk to anybody with a sense of humor, but couldn't make a success of it where the sense of humor was lacking.

On the morning of October 13 Doctor Hunter was in El Paso, Tex., busily engaged in work in connection with quarantines on account of the pink bollworm. About noon he announced that he would lie down and rest for a short time before going to lunch. When friends went to his room to accompany him to lunch they found him ill and summoned a physician. Doctor Hunter soon lost consciousness and was rushed to a hospital, where his death occurred at 6.45 p. m., a stroke of apoplexy being the cause. -- J. L. W.

FOREST INSECT INVESTIGATIONS

F. C. Craighead, Entomologist, in Charge

The serious situation throughout the longleaf pine belt of eastern Texas and Louisiana, which was first called to our attention last fall, still continues. Many alarming reports and strong appeals for assistance have been brought to our attention during the summer. It is stated that already over 250,000,000 feet of mature pine has been lost. Two associations in this District, the Southern Logging Association and the East Texas Mill Managers' Association, have adopted resolutions requesting the Secretary of Agriculture to lend aid by establishing a forest insect field station in the region in order to make a thorough study of the problem.

In June, 1924, J. M. Miller made a survey of the timbered area in the San Bernardino Mountains surrounding the Arrowhead Lake district, in southern California. This section is one in which summer home development has placed a very high value upon forest cover. Thousands of owners are interested in the protection of the trees about summer home sites. The situation has been taken up recently by the State Forester under the State law and a zone of infestation declared. Under the terms of this law 60 per cent of the owners may organize and carry to completion control operations over the entire district. The owners in this district contemplate pushing such a project during the coming winter, following plans outlined by the Bureau of Entomology.

In response to many demands, a Farmers' Bulletin on *Lyctus* "powder-post" beetles and their control has been prepared to take the place of Farmers' Bulletin 778, the supply of which has been exhausted for several years.

William Middleton and R. A. St. George have returned from Asheville, N.C., where the southern pine beetle and some other pine bark beetles were studied during the summer.

H. L. Person, assisted by Albert Wagner, has just completed a survey of a series of timber-sale areas in national forests in central and northern California, to determine the extent to which insects are interfering with the proper restocking of these lands with second growth. This study was carried out in cooperation with the Forest Service of District 5, which allotted funds for travel and field expenses. The losses on several areas on the Shasta National Forest were severe, in one case 25 per cent of the trees reserved for increment having been killed by the western pine beetle in one season. In the Plumas and Lassen National Forests insect losses were negligible on sale areas. Two areas in the Sierra National Forest have also shown losses of a serious character in the timber reserved for second cutting. This problem is of considerable importance in its relation to the management and marking practices on national forest lands.

Studies of interrelation of insects and fire damage have been made on the Northfork areas in California, during the current season. The basis for these studies consists of an analysis of the bark-beetle infestation developing in and around a burn of 6,000 acres which occurred in 1924. This work is being conducted by Messrs. Person, Morrow, and Wagner.

During the months of July and August an examination of the infested areas on the Yosemite National Park and the Mono National Forest was made by J. M. Miller.

GIPSY MOTH AND BROWN-TAIL MOTH INVESTIGATIONS

A. F. Burgess, Senior Entomologist, In Charge

A. F. Burgess spent a few days in Washington in the first week of October, and attended the meetings on estimates for 1927, held by the Bureau of the Budget.

C. F. W. Muesebeck recently spent several weeks at the Division of Insects of the United States National Museum, conducting studies of various parasites which had been reared at the gipsy moth laboratory and continuing his investigations of the subfamily Braconinae. He hopes to prepare a revision of this group. He also stopped at New Haven and Philadelphia to study certain specimens.

M. T. Smulyan has recently returned from Somerville, N. J., where he has been carrying on a study of the dispersion of the introduced gipsy-moth parasites and their relation to some of the native insects.

A. W. Young, who has been in the service of the Bureau of Entomology since October, 1913, associated with the gipsy moth and brown-tail moth projects, has tendered his resignation and is to live in Florida.

S. M. Dohanian resigned from the Bureau of Entomology on September 30, 1925, to accept a position with the American Cyanamid Co., of New York. Mr. Dohanian has been with the Bureau of Entomology, on the moth project, since July, 1917, except for two years of service in the Army.

Dr. F. Materna, of Vienna, Austria, and Albert Hartzell, of the Boyce-Thompson Institute, Yonkers, N. Y., and Mrs. Hartzell, were recent visitors at the gipsy moth laboratory.

BEE CULTURE INVESTIGATIONS

James I. Hambleton, Apiculturist, in Charge

Jas. I. Hambleton attended the meeting of the Connecticut State Beekeepers' Association held in Hartford on October 24.

Visitors at the Bee Culture Laboratory during the past month included H. H. Root, general manager of the A. I. Root Company, Dr. E. F. Phillips and Virgil Argo, of Cornell University, Prof. E. N. Cory, of Maryland, Editor Freer of The Forum, and Rockward Nusbaum, a prominent Maryland beekeeper.

E. L. Sechrist is still in the West, obtaining field data on the grading of comb honey.

JAPANESE BEETLE INVESTIGATIONS

L. B. Smith, Entomologist, in Charge

J. L. King returned to Ohio State University in September to undertake graduate studies, and is expected to return to Riverton January 1, 1926.

E. A. Richmond is spending some time at the Massachusetts Agricultural College, where he is continuing graduate work and doing some special work on agents attractive and repellent to the Japanese beetle. Mr. Richmond expects to return to Riverton January 1, 1926.

L. B. Smith recently addressed the Plant Quarantine Conference of the northeastern and central Atlantic States on the subject of the Japanese-beetle situation, with particular reference to the quarantine work.

Dr. George W. Martin, Chief of the Biology Department of Washington and Jefferson University, returned to that institution September 17. During the summer Dr. Martin carried on a detailed study of the relationship of the Japanese beetle to the transmission of brown-rot of stone fruits.

Dr. C. L. Johns, chief of the research division, together with representatives of the Standard Oil Company, recently visited the laboratory at Riverton to confer with members of the staff relative to insecticide investigations under way.

C. P. Clausen writes from Shillong, India, that the outlook is most promising for the finding of parasites of *Popillia* in that region. He states that he has already found a species of *Tiphia* occurring in August on second-stage larvae, which, if it could be introduced into the United States, would probably be an exceedingly effective parasite. Up to the present time importations have been made from Japan of species of *Tiphia* occurring in the spring and in the autumn, but until the present report from India was received no findings have been made of a species occurring in midseason.

On account of the congestion at the laboratory additional space has recently been rented, which will serve as a headquarters for certain phases of quarantine and research work.

The extermination and control work which has been carried on at Milton, Pa., in an effort to stamp out an infestation of Japanese beetles found there in 1924, was recently ended for the season. No beetles have been found at that point this year. This infestation seems to have been completely eradicated, but work will be continued at this point for another year or two, to make certain that no beetles have escaped.

The spread of the Japanese beetle during the summer of 1925 has been the smallest in proportion of any year on record. In Pennsylvania only one beetle was found in the open beyond the present quarantine limits.

FRUIT INSECT INVESTIGATIONS

A. L. Quaintance, Associate Chief of Bureau, in Charge

Oliver I. Snapp, in charge of peach insect investigations at Fort Valley, Ga., reports: "From present indications more lubricating-oil emulsion will be used in the Georgia peach belt this year than lime sulphur. There has been a material increase in the scale infestation in many sections of the State, largely because of favorable weather conditions. A large majority of the Georgia peach growers again used paradichlorobenzene for borer control. From some localities come reports that all of the growers used the material."

H. K. Plank, in charge of the New Orleans station, writes that Thos. F. Catchings, of the laboratory, spent September 28 and 29 investigating the camphor scale and the cottony cushion scale in satsuma orange groves in the vicinity of Mobile and Grand Bay, Ala.

Dr. Howard, in company with Dr. W. V. King and B. R. Coad, visited the camphor scale laboratory at New Orleans on October 15.

W. W. Yothers, shortly after the first of July, visited the camphor scale laboratory at New Orleans and the citrus regions in the lower Rio Grande Valley, also stopping at Phoenix. He spent some time in southern California in conference with Professor Quayle, Mr. Woglum, and others, and visited the citrus districts in the general region of Sacramento. He recently returned to Florida by way of Washington.

Dr. F. H. Lathrop, who has been in charge of the Bureau's investigation of the blueberry maggot, with headquarters at Harrington, Maine, has gone to Sanford, Fla., where he will give attention to insect damage to the huckleberry and the blueberry, and make investigations in connection with the celery leaf-tyer work under way at that place.

R. F. Sazama, who has been assisting Dr. Lathrop in blueberry maggot work at Harrington, Me., has been temporarily sent to Vincennes, Ind., where he will assist Dr. B. A. Porter in fruit insect investigations.

Dr. C. H. Richardson, in cooperation with Dr. Edward L. Griffin, of the Insecticide and Fungicide Laboratory, Bureau of Chemistry, is conducting investigations on petroleum-oil insecticides. A cold-mixed lubricating-oil emulsion has been perfected which is economical, easy to prepare, and very resistant to hard water. A field method for determining the percentage of oil in emulsions, both concentrated and of strength suitable for spraying, has also been worked out, which it is believed will be of value to all who are experimenting with oil sprays. R. C. Burdette is assisting in this work. Cooperative projects on oil insecticides have also been arranged with the Bureau of Chemistry by W. W. Yothers and E. J. Newcomer. Mr. Yothers is studying the effects of the various components of petroleum oils on citrus insects and foliage, and Mr. Newcomer is investigating the preparation and insecticidal action of miscible oils.

STORED-PRODUCT INSECT INVESTIGATIONS

E. A. Back, Entomologist, in Charge

Special attention is called to a typewritten translation made by Mrs. Perez Simmons of the work on the Angoumois grain moth by Duhamel and Tillet and entitled "History of an Insect Which Devours the Grains of Angoumois." This rather extensive translation has been neatly bound with photographic copies of original illustrations, together with certain other illustrations of interest to the present-day reader. As the editor, Mr. Simmons, writes: "The interest which lies in this treatise (published in 1762) on the Angoumois grain moth is due both to the fact that it is the principal original contribution to our knowledge of the biology of the species and because it is a pioneer among monographs dealing with injurious insects. . . Duhamel du Monceau had unusual ability as an investigator, in the organization of cooperation, and as an artist and painstaking writer. His suggestions for the application of quarantine measures to prevent the spread of the insect, and for the use of police power in enforcing clean-up work, sound decidedly modern." Several less extensive translations, particularly from the Russian and dealing with grain pests, have been made and deposited in the Bureau Library. All translations of this sort should prove very useful in investigational work.

J. C. Hamlin, in charge of the field work in dried-fruit insect investigations, was recently interviewed by P. M. Williams and E. J. Murphy, of the Bureau of Agricultural Economics, concerning the influence of insect infestation on the local application of the Warehouse Act to stored dried fruits.

In September, 1925, Dr. Back, with S. E. McClendon, reviewed the results of experiments in and about Brunswick, Ga., for the control of the corn weevil. The scarcity of rice weevils in ripe corn grown on isolated farms where fumigation of cribs had been undertaken by the Bureau was very gratifying. On certain other farms, where no fumigations had been made, from 60 to 90 per cent of the ears of corn were found to contain weevils previous to harvesting, and some of the less protected ears were already practically destroyed.

In September A. O. Larson prepared and mounted an educational exhibit at the Stanislaus County, Calif., Fair. This display, consisting of enlarged photographs and other material illustrating the biology of bean weevils and the destruction they cause, attracted much attention and received favorable newspaper comment. The fact that bean weevils have made bean growing unprofitable in some sections of California, and apparently are everywhere on the increase where remedial measures have not been attempted, has driven home to bean growers the practical value of the Bureau's work on these pests.

At the request of the Ordnance Department of the Army, Dr. Cotton on October 2 supervised the fumigation of 450,000 cubic feet of space at the Reserve Supply Depot at New Cumberland, Pa. Clothes moths destroying the felts of thousands of crated steel army helmets were the object of attack.

J. C. Hamlin and W. D. Reed, of the Dried Fruit Laboratory, were recently invited to investigate the effectiveness of fumigation with carbon disulfide of a large packing plant containing about 2,400,000 pounds of raw-stock figs. The fumigant was used in two sections of the building, at the rate of 105 gallons to 388,500 cubic feet, with an exposure of 36 hours. Valuable data were secured.

J. C. Hamlin and W. D. Reed, in conjunction with Elmer Snyder, of the Department Horticultural Investigations, had charge of the October meeting of the Federal Business Mens' Association of Fresno, presenting an agricultural program. Mr. Hamlin introduced Sr. Jorge Malottky, who talked briefly on the new movement in agricultural education conducted by the present Mexican administration.

Early in October Dr. Back investigated a troublesome outbreak of hide beetles in McCook, Ill. An interesting photograph has been received from a concern in Florida which manufactures fish oil and dried fish, showing conditions under which hide-beetle larvae have proved destructive to containers, flooring of warehouse and loading platform, and even railway ties.

Jorge Malottky, N. P. Escobar, Jr., R. Escobar, and Juan Serrano, all of the Mexican Department of Agriculture, are studying agricultural practices in the United States. These men, and other groups sent to various countries, will form the nucleus of the agricultural teaching staff of the schools presently to be established at several points in the Republic. While in Fresno the gentlemen named held a number of conferences with J. C. Hamlin and W. D. Reed, of the Dried Fruit Laboratory.

CEREAL AND FORAGE INSECT INVESTIGATIONS

W.H. Larrimer, Entomologist, in Charge

L. H. Worthley attended the budget hearings in Washington during the week of October 5, after which W. H. Larrimer went to New York with Mr. Worthley to inspect the clean-up work being conducted on Long Island in connection with the European corn borer investigations.

Joe S. Wade left Washington October 5 for a vacation trip to southern Kansas, stopping at Webster Groves, Mo., for a brief inspection of the bill-bug work being conducted at that point by A. F. Satterthwait. Mr. Wade expects to return to Washington about the last of October.

On October 21, L. H. Worthley left his headquarters at Arlington, Mass., to join a large party of Michigan State officials and leading agriculturists in an inspection of the corn-borer area in Canada. From there, in company with Prof. C. O. Reed, of the Ohio State University, he proceeded to Chicago for a conference with farm machinery men.

After an absence of several weeks, on account of illness, C. N. Ainslie has returned to his duties at the Sioux City, Iowa, station.

SOUTHERN FIELD-CROP INSECT INVESTIGATIONS

J. L. Webb, Associate Entomologist, Acting in Charge

On account of the death of Dr. W. D. Hunter, previously announced, a conference concerning the future work of this branch was held at the Boll Weevil Laboratory, Tallulah, La., on October 24. Those attending the conference were B. R. Coad, A. C. Morgan, T. E. Holloway, F. C. Bishopp, W. V. King, and J. L. Webb. Pending the selection of a permanent officer in charge, Mr. Coad will direct the policies of the branch.

A demonstration of airplane dusting of cotton was given at Tallulah on October 25. In the afternoon of the same day F. C. Bishopp and J. L. Webb visited the malaria mosquito laboratory at Mound, La., of which Dr. W. V. King is in charge.

A conference between Federal and State officers concerning the mosquito situation along the Gulf Coast of Louisiana and Mississippi was held in New Orleans, La., on October 15. Dr. L. O. Howard and Dr. W. V. King represented the Bureau of Entomology.

Daniel D. Ewing, Jr., of New Orleans, has been given a temporary appointment to determine the relative abundance of the sugarcane moth borer in the sugarcane-growing region along the Gulf Coast.

Reginald H. Painter has been appointed Collaborator to assist in investigations of the cotton hopper.

TAXONOMIC INVESTIGATIONS

S. A. Rohwer, Entomologist, in Charge

Prof. Stephen Bruner, of the Agricultural Experiment Station, Santiago de las Vegas, Habana, visited the Division of Insects on October 15 to become acquainted with some of the specialists and examine the collection of Hemiptera.

Emil L. Liljeblad, of the Field Museum of Chicago, spent four days in the latter part of October studying beetles in the collection of the Museum. Mr. Liljeblad was especially interested in beetles of the family Mordellidae and is preparing a revision of the North American species of this group. He examined the material in the National Collection and was especially interested in John B. Smith's types.

Alan S. Nicolay, of New York, recently spent a few days looking over the collection of beetles, being especially interested in those belonging to the families Buprestidae and Carabidae.

Frank R. Mason, of Philadelphia, recently visited the Division of Insects and examined the collection of beetles, including those belonging to the families Cerambycidae and Buprestidae.

Louis Thiel, of San Sebastian, Guatemala, visited the Division of Insects in October and left some interesting specimens which he had collected. Mr. Thiel formerly lived in Washington, but for six or seven years has been living in Guatemala, and believes that it is not only a very healthful, but a very delightful place in which to live. Insects can be collected every day in the year and the climate is delightful.

TRUCK-CROP INSECT INVESTIGATIONS

J. E. Graf, Entomologist, in Charge

B. L. Boyden, of Tampa, Fla., and W. H. White, of Washington, D. C., recently attended a conference at Sanford, Fla., called by Dr. Wilmon Newell, State Plant Commissioner and Director of the Florida Experiment Station, to discuss problems relating to celery culture in Florida. Preliminary plans were made with representatives of the Bureaus of Chemistry and Plant Industry, U. S. Department of Agriculture, and officials of the Florida Experiment Station and State Plant Board for cooperative work on the leaf-tyer problem. En route, Mr. White stopped at Savannah, Ga., where he conferred with J. O. Clark, of the Bureau of Chemistry, in regard to some contemplated cooperative experiments on arsenical residues on celery sprayed for leaf-tyer control.

Walter Carter, of Twin Falls, Idaho, visited Riverside, Calif., to discuss the sugar-beet leafhopper problem with Dr. Carsner. Both proceeded to Berkeley, Calif., for a conference with the officials of the Department of Entomology of the University of California regarding work to be undertaken on this problem. Heavy losses have been suffered by California growers during the past year.

D. E. Fink has been transferred from Riverton, N. J., to Philadelphia, Pa., and is located at the University of Pennsylvania, where adequate facilities have been offered for the conduct of his work. He is undertaking fundamental research on the physiology of insects, including studies to determine the factor influencing the effectiveness of various poisons against wireworms.

A temporary appointment has been given O. R. Deen. The appointment of L. H. Curet has been extended. T. W. Allen has resigned, and the appointment of M. P. Jones has been terminated.

LIBRARY

Mabel Colcord, Librarian

NEW BOOKS

Balfour-Browne, F.

Concerning the habits of insects. Cambridge, At the University Press, 1925. 169 pp., illus., 9 pls.

British Museum (Natural History)- Department of Entomology.

Catalogue of type specimens of Lepidoptera Rhopalocera in the British Museum. London, Printed by order of the trustees of the British Museum, 1924-1925. Part I., Satyridae, by N. D. Riley and A. G. Gabriel. 62 pp., 1924. Part II., Danaidae, by N. D. Riley and A. G. Gabriel, 55 pp., 1925.

Cutler, J. V., Theron, J. J., and Oosthuizen, J. duP.

Some further remarks on tobacco cultivation for nicotine. Pretoria, Government Printing and Stationery Office, 1925. 23 pp., 12 tables. (Union of South Africa Dept. of Agr. Bul. No. 2 of 1925.)

Davidson, James.

A list of British aphides. London, Longmans Green & Co., 1925. 176 pp. (Rothamsted monographs on agricultural science.) "Bibliography of the Aphidoidea," pp. 159-176.

Duhamel du Monceau, H. L., and Tillet, Mathieu.

Histoire d'un insecte qui devore les grains de l'Angoumois, avec les moyens que l'on peut employer pour le détruire. Paris, Guerin, 1762. Translated by Elisabeth Simmons; edited by Perez Simmons. 1925. 77 pp., pls. (Typed manuscript.)

Engler, Adolf.

Syllabus der Pflanzenfamilien. Eine Übersicht über das gesamte Pflanzensystem mit besonderer Berücksichtigung der Medizinal- und Nutzpflanzen nebst eine Übersicht über die Florenreiche und Florengebiete der Erde zum Gebrauch bei Vorlesungen und Studien über spezielle und medizinisch-pharmaceutische Botanik... 9 u. 10 aufl., mit Unterstützung von Dr. Ernst Gilg. Berlin, Verlag von Gebrüder Borntraeger, 1924. 420 pp., illus.

Holland, W. J., and Schaus, William.

The Epipaschiinae of the Western Hemisphere; a synonymic catalog of the species hitherto described, with figures of many, which have not heretofore been depicted. Annals of the Carnegie Museum, vol. 16, No. 1, pp. 49-130, 7 pls., July, 1925.

Jaquet, Edmond.

Guide du cultivateur. Les insectes nuisibles au potager et au verger.

Paris, Edition de la Société des publications rurales, 1925. 62 pp., illus.

McClendon, J. F., and Medes, Grace.

Physical chemistry in biology and medicine. Philadelphia, W. B. Saunders Company, 1925. 425 pp. "Literature" at ends of chapters.

Petrunkévitch, Alexander.

Arachnida from Panama. Trans. Conn. Acad. Arts and Sciences, vol. 27, pp. 51-248, illus. July, 1925.

Price, H. L.

Instrucciones para combatir los insectos daninos y las enfermedades que afectan los arboles frutales y otras plantas. Tr. del profesor J. J. Flahiff. Mexico, 1921. 103 pp.

Saunion, E. L.

Notice sur les acridiens migrants au Sénégal pour servir à leur étude, et des moyens propres à les combattre. Paris, E. Larose, 1924. 34 pp.

Skaife, S. H.

The fungous diseases of locusts: report on a preliminary investigation in South-West Africa. Pretoria, 1925. 8 pp., illus. 24 cm.

Valsinieri, Antonio.

Dialogo... sopra origine di molti insetti... Venezia, Girolamo Albrizzo, 1700. Unpaged.

Walker, E. M.

The North American dragonflies of the genus Somatochlora. Toronto, University of Toronto, 1925. 202 pp., illus., 35 plates. (University of Toronto studies. Biological series No. 26.)

Withers, F. W., and Simmons, E. C.

Lac in Burma: report on a tour in the Central provinces for the purpose of studying the departmental cultivation of lac, November, 1924, to February, 1925, with some suggestions for the improvement of lac cultivation in Burma. Rangoon, Supt. Government Printing and Stationery, Burma, 1925. 41 pp. (Burma Forest Bul. No. 12. Econ. Ser. No. 1.)

